US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: February 24, 2005
Comment Deadline: March 25, 2005
Corps Action ID #: 200401077

All interested parties are herby advised that the Wilmington District, Corps of Engineers (Corps) has received an application for work within jurisdictional waters of the United States. Specific plans and location information are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at www.saw.usace.army.mil/wetlands

Applicant: Mr. Lewis Holding
The Nassau Corporation
Post Office Box 151
Raleigh, North Carolina 27602

AGENT (if applicable): Mr. Frank Sheffield, Jr.
Ward and Smith
Post Office Box 867
New Bern, North Carolina 28563

Authority

The Corps will evaluate this application and decide whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of Section 404 of the Clean Water Act (33 U.S.C. 1344).

Location

The project site is located at 34-39.42, 77-4.45, on Lots 9, 12, and 93 in Dolphin Ridge Subdivision and Lots 2 and 6 in Royall Oaks Subdivision, off Coast Guard Road, in wetlands adjacent to Bogue Sound, in Emerald Isle, Carteret County, North Carolina. Specifically, Lots 9 & 12 are located off Poseidon Road, Lot 93 is on Dolphin Ridge Road, Lot 6 is found on Lord Berkeley Drive, and Lot 2 is on Granville Drive.

Existing Site Conditions

All project lots are residential within the existing housing developments of Dolphin Ridge and Royall Oaks Subdivisions, which are mostly built-out. Coast Guard Road dissects these two developments and Dolphin Ridge runs south of Coast Guard Road to the Atlantic Ocean, while Royall Oaks is bordered by Coast Guard Road to the south and

by Bogue Sound to the north. Nassau Corporation is the original developer of both subdivisions, and owns (10) of the remaining lots in Dolphin Ridge and (6) lots in Royall Oaks. Both residential developments were constructed between 1989 and 1992.

In the initial construction of Dolphin Ridge, our office issued a Nationwide Permit No. 26 in July of 1990 for 3.77 acres of wetland impacts. At this time, it is uncertain how much of these impacts have taken place. Additionally, our office authorized the placement of fill material into wetlands for the development of Royall Oaks' infrastructure. As a part of our authorization for both developments, the permits were conditioned to incorporate covenants, which Nassau has recorded with the Carteret County Register of Deeds, to restrict and prohibit additional impacts to jurisdictional waters and wetlands. It should be noted that this current proposal, if authorized, would be modifying the original permit conditions as it pertains to the restrictive covenants, or declarations, relating to activities in wetlands within both developments.

The project sites are located within a developed maritime ridge and swale forest system where the majority of the canopy trees have been timbered or have died due to heavy damage from past hurricanes. The underlain hydric soil type located within the wet swale is Duckston fine sand, which is frequently flooded; and the non-hydric soil types included along the ridges are Fripp fine sand, with 2 to 30 percent slopes, and Newhan-Corolla complex, with 0 to 30 percent slopes.

Applicant's Stated Purpose

The applicant's stated purpose to discharge fill material into Section 404 wetlands is to provide suitable lots for residential development, which consist of the construction of a driveway and a single family home.

Project Description

The following description of the work is taken from data provided by the applicant. The proposed project involves the placement of approximately 625 cubic yards of fill material into approximately 5,105 square feet (or 0.117 acres) of jurisdictional wetlands. The following list is a breakdown composite of the proposed wetland impact amounts for each lot:

Lot Number	Wetland Impacts
Lot 9, Dolphin Ridge	.0077 acres
Lot 12, Dolphin Ridge	.0175 acres
Lot 93, Dolphin Ridge	.0713 acres
Lot 6, Royall Oaks	.0051 acres
Lot 2, Royall Oaks	.0154 acres

All proposed lots have been approved to connect to the community sewer system except for Lot 6 in Royal Oaks, which will handle wastewater through an individual septic system. All work will be accomplished using bulldozers, dump trucks, and track or backhoe equipment.

To compensate for the 0.117-acre impacts, the applicant is proposing to create 0.12 acres (5,269 sq. ft.) of jurisdictional wetlands, which will be adjacent to existing wetlands, within both subdivisions. The mitigation will comprise of removing existing contours down to benchmark wetland elevations and allowing natural recruitment from adjacent wetland vegetation to establish the plant community. The proposed mitigation, as described in the plan dated January 21, 2005, will compensate for the wetland impacts at a 1:1 ratio. Specific location and creation amount of the mitigation areas are the following:

Lot Number	Mitigation Creation
Lot 11 & 12, Dolphin Ridge	1,666 sq.ft. (0.038 Ac)
Lot 39, Royall Oaks	1,443 sq.ft. (0.033 Ac)
Lot 41, Royall Oaks	2,160 sq.ft. (0.049 Ac)

Other Required Authorizations

This notice and all applicable application materials are being forwarded to the appropriate State agencies for review. The Corps will generally not make a final permit decision until the North Carolina Division of Water Quality (NCDWQ) issues, denies, or waives State certification required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice in the NCDWQ Central Office in Raleigh serves as application to the NCDWQ for certification. A waiver will be deemed to occur if the NCDWQ fails to act on this request for certification within sixty days of the date of the receipt of this notice in the NCDWQ Central Office. Additional information regarding the Clean Water Act certification may be reviewed at the NCDWQ Central Office, 401 Oversight and Express Permits Unit, 2321 Crabtree Boulevard, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for certification under Section 401 of the Clean Water Act should do so in writing delivered to the North Carolina Division of Water Quality (NCDWQ), 1650 Mail Service Center, Raleigh, North Carolina 27699-1650 Attention: Mr. John Hennessy (NC Department of Transportation projects) or Ms Cyndi Karoly (all other projects) by March 18, 2005.

The applicant has not provided to the Corps, a certification statement that his/her proposed activity complies with and will be conducted in a manner that is consistent with the approved North Carolina Coastal Zone Management Program. Pursuant to 33 CFR 325.2(b)(2), the Corps can not issue a permit for the proposed work until the applicant submits such a certification to the Corps and the North Carolina Division of Coastal

Management (NCDCM), and the NCDCM notifies the Corps that it concurs with the applicant's consistency certification.

Essential Fish Habitat

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The Corps' initial determination is that the proposed project will not adversely impact EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.

Cultural Resources

The Corps has consulted the latest published version of the National Register of Historic Places and is not aware that any registered properties, or properties listed as being eligible for inclusion therein are located within the project area or will be affected by the proposed work. Presently, unknown archeological, scientific, prehistoric, or historical data may be located within the project area and/or could be affected by the proposed work.

Endangered Species

The Corps has reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps has determined pursuant to the Endangered Species Act of 1973, that the proposed project will have no effect on federally listed endangered or threatened species or their formally designated critical habitat.

The Corps has reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps is not aware of the presence of species listed as threatened or endangered or their critical habitat formally designated pursuant to the Endangered Species Act of 1973 (ESA) within the project area. A final determination on the effects of the proposed project will be made upon additional review of the project and completion of any necessary biological assessment and/or consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service."

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental

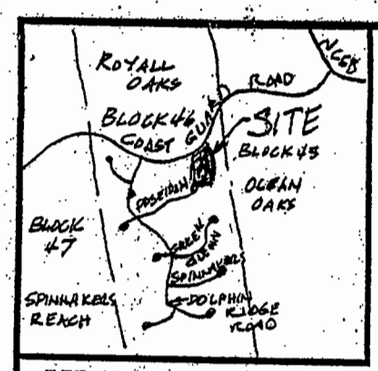
concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

The Corps is soliciting comments from the public; Federal, State and local agencies and officials; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

Written comments pertinent to the proposed work, as outlined above, will be received by the Corps of Engineers, Wilmington District, until 5pm, March 25, 2005. Comments should be submitted to Mr. Mickey Sugg, Post Office Box 1890, Wilmington North Carolina 28402-1890. If you have questions, please contact Mr. Sugg at (910) 251-4811.



VICINITY MAP
NOT TO SCALE

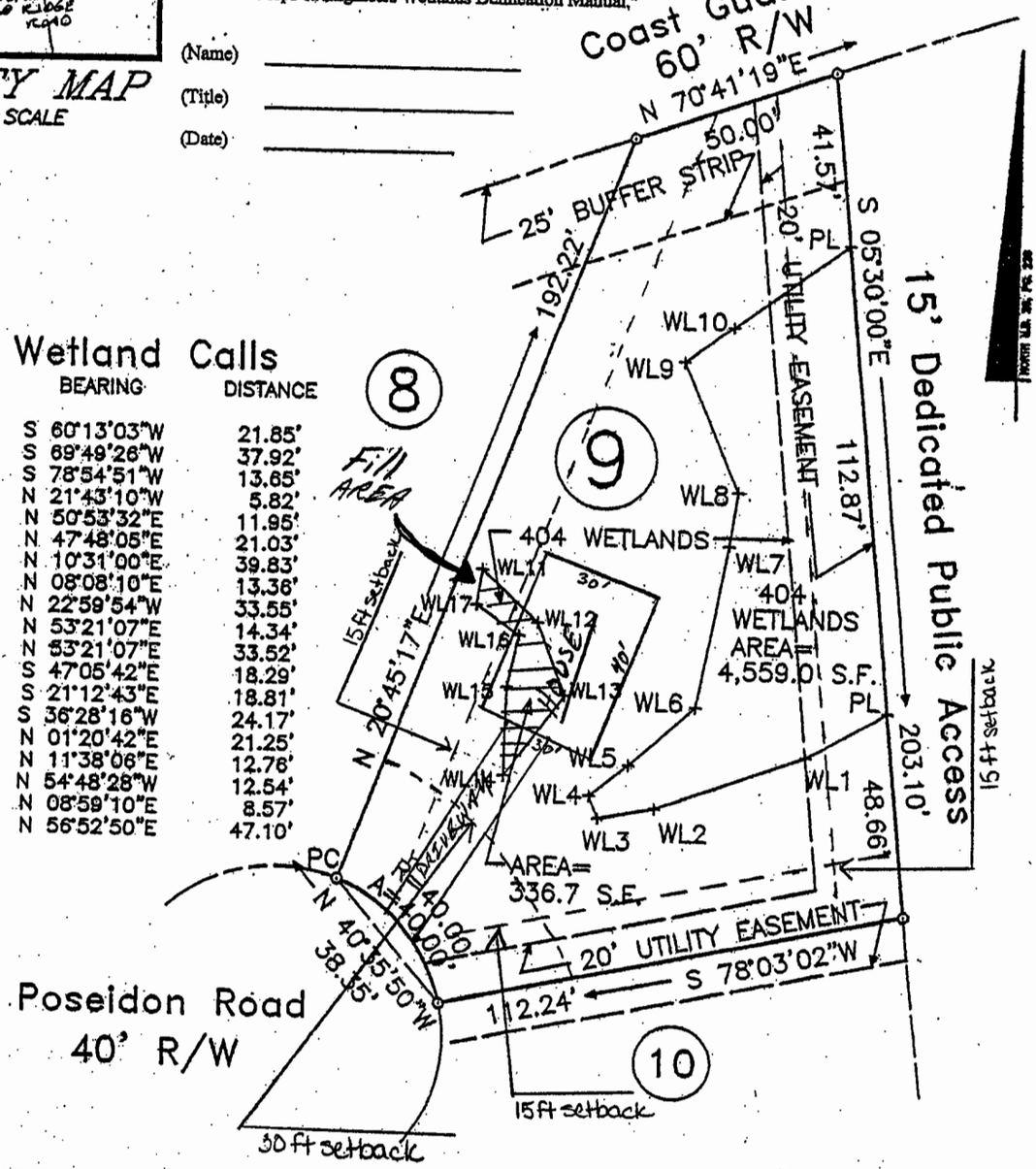
[ACCURATE 404 WETLANDS CERTIFICATION FOR USACOE SURVEY APPROVAL]

"This certifies that this copy of this pat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act under the present law and regulations as determined by the undersigned on this date. Unless there is a change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five (5) years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual."

(Name) _____

(Title) _____

(Date) _____



404 Wetland Calls

COURSE	BEARING	DISTANCE
PL–WL1	S 60°13'03"W	21.85'
WL1–WL2	S 69°49'26"W	37.92'
WL2–WL3	S 78°54'51"W	13.65'
WL3–WL4	N 21°43'10"W	5.82'
WL4–WL5	N 50°53'32"E	11.95'
WL5–WL6	N 47°48'05"E	21.03'
WL6–WL7	N 10°31'00"E	39.83'
WL7–WL8	N 08°08'10"E	13.36'
WL8–WL9	N 22°59'54"W	33.55'
WL9–WL10	N 53°21'07"E	14.34'
WL10–PL	N 53°21'07"E	33.52'
WL11–WL12	S 47°05'42"E	18.29'
WL12–WL13	S 21°12'43"E	18.81'
WL13–WL14	S 36°28'16"W	24.17'
WL14–WL15	N 01°20'42"E	21.25'
WL15–WL16	N 11°38'06"E	12.76'
WL16–WL17	N 54°48'28"W	12.54'
WL17–WL11	N 08°59'10"E	8.57'
PC–WL14	N 56°52'50"E	47.10'

LEGEND

E.I.P. EXISTING IRON PIPE
S.I.S. SET IRON STAKE
R/W RIGHT OF WAY
M.B.S.L. MINIMUM BUILDING SETBACK LINE
M.B. MAP BOOK
PG. PAGE
S.F. SQUARE FEET
℄ CENTERLINE
E.C.M. EXISTING CONCRETE MONUMENT
E.I.S. EXISTING IRON STAKE
E.M.N. EXISTING MAG NAIL
S.M.N. SET MAG NAIL

NOTES

1.) AREA = 19,005.3 S.F. (BY COORDINATE COMPUTATION)
2.) CLOSURE = 1:10,000+
3.) REFERENCE : M.B. 28 PG. 228
4.) P.I.N. 5373.12-95-5580
5.) FLOOD ZONE : ZONE X PER F.I.R.M. 3720 5573 00 J, DATED JULY 16, 2003
6.) FINAL MAP RECORDED : APRIL 12, 1991
7.) THIS PROPERTY IS SUBJECT TO ALL EASEMENTS, AGREEMENTS, AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAT.

I, JOHN A. ODOM hereby certify that this map is correct and prepared according to the Standards of Practice for Land Surveying in North Carolina, and that there are no property line encroachments either way on said survey, the property line encroachments on said survey are as shown. L-3062

THIS MAP IS NOT FOR RECORDING.

NORTH CAROLINA REGISTERED LAND SURVEYOR JOHN A. ODOM L-3062

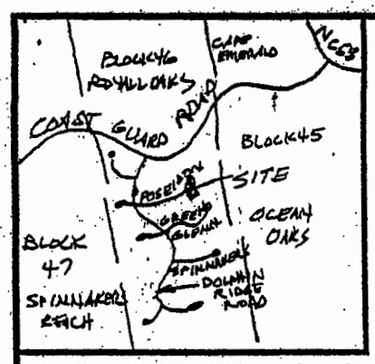
Registered Land Surveyor

SURVEYED BY	DATE
BES	MAY, 2004
FIELD BOOK PAGE	DRAWN BY
	JAD

SURVEY FOR
NASSAU CORPORATION
P.O. BOX 29549
RALEIGH, NC 27626 252-672-5451
LOT 9, BLOCK 46 SOUTH
DOLPHIN RIDGE SUBDIVISION

COUNTY	CITY	TOWNSHIP
CARTERET	EMERALD ISLE, NC	WHITE OAK
SCALE 1"=40'	DATE JUNE 4, 2004	PROJECT NO. 9001IE1 "LOT9DR"

Prestige
Land Surveying, P.A.
501 W. B. McLean Blvd. – Cape Carteret
Swansboro, North Carolina 28584
252-393-2129 (Fax)252-393-3075



VICINITY MAP

NOT TO SCALE

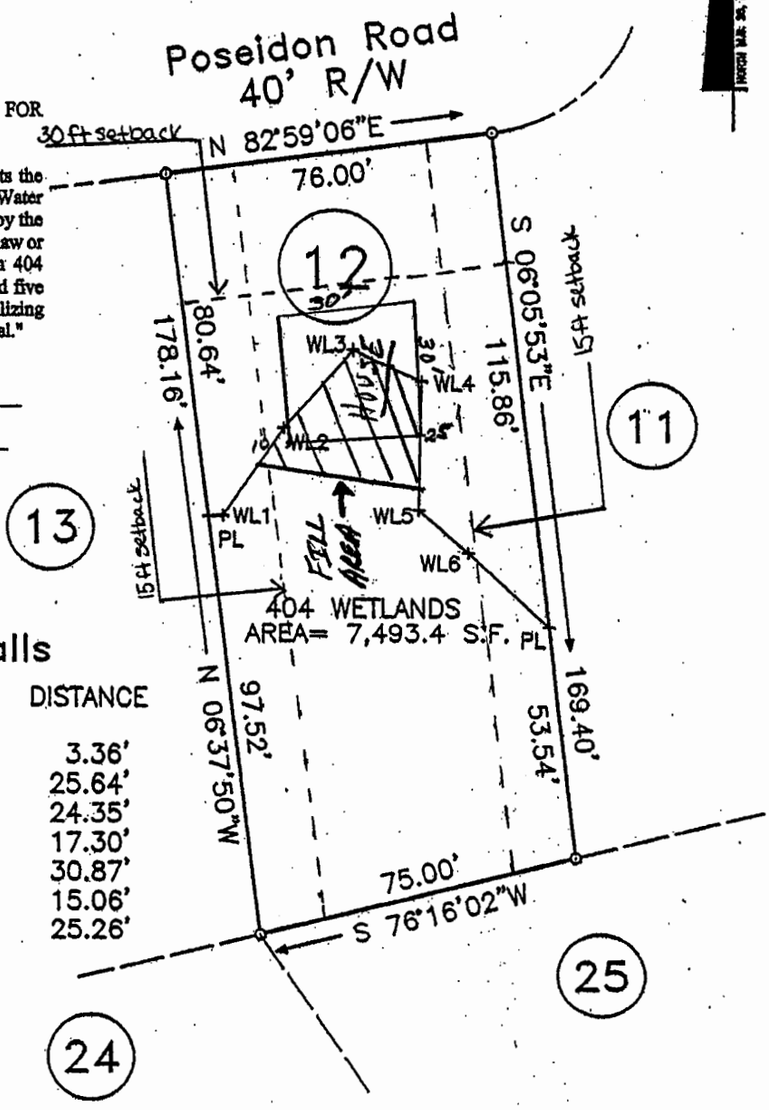
[ACCURATE 404 WETLANDS CERTIFICATION FOR USACOE SURVEY APPROVAL]

"This certifies that this copy of this pat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act under the present law and regulations as determined by the undersigned on this date. Unless there is a change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five (5) years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual."

(Name) _____

(Title) _____

(Date) _____



404 Wetland Calls

COURSE	BEARING	DISTANCE
PL–WL1	N 87°37'17"E	3.36'
WL1–WL2	N 34°06'14"E	25.64'
WL2–WL3	N 41°30'35"E	24.35'
WL3–WL4	S 64°57'52"E	17.30'
WL4–WL5	S 01°30'52"W	30.87'
WL5–WL6	S 48°08'08"E	15.06'
WL6–PL	S 47°03'51"E	25.26'

LEGEND

E.I.P. EXISTING IRON PIPE
S.I.S. SET IRON STAKE
R/W RIGHT OF WAY
M.B.S.L. MINIMUM BUILDING SETBACK LINE
M.B. MAP BOOK
PG. PAGE
S.F. SQUARE FEET
℄ CENTERLINE
E.C.M. EXISTING CONCRETE MONUMENT
E.I.S. EXISTING IRON STAKE
E.M.N. EXISTING MAG NAIL
S.M.N. SET MAG NAIL

NOTES

1.) AREA = 13,066.0 S.F. (BY COORDINATE COMPUTATION)
2.) CLOSURE = 1:10,000+
3.) REFERENCE : M.B. 28 PG. 228
4.) P.I.N. 5373.12-75-4296
5.) FLOOD ZONE : ZONE X, AE(EL9) PER F.I.R.M. 3720537200J, DATED JULY 16, 2003
6.) FINAL MAP RECORDED : APRIL 12, 1991
7.) THIS PROPERTY IS SUBJECT TO ALL EASEMENTS, AGREEMENTS, AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAT.

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NORTH CAROLINA REGISTERED LAND SURVEYOR JOHN A. ODDOM L-3062

Registered Land Surveyor License No.

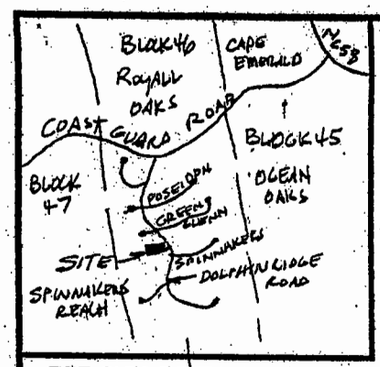
SURVEYED BY	DATE
BFS	MAY 2004
FIELD BOOK PAGE	DRAWN BY
	JAO

SURVEY FOR
NASSAU CORPORATION
P.O. BOX 29549
RALEIGH, NC 27626 252-672-5451

LOT 12, BLOCK 47 SOUTH
DOLPHIN RIDGE SUBDIVISION

COUNTY	CITY	TOWNSHIP
CARTERET	EMERALDISLE, NC	WHITE OAK
SCALE 1"=40'	DATE JUNE 4, 2004	PROJECT NO. 4001/6/"LOT12DR"

Prestige
Land Surveying, P.A.
501 W. B. McLean Blvd. – Cape Carteret
Swansboro, North Carolina 28584
252-393-2129 (Fax)252-393-3075



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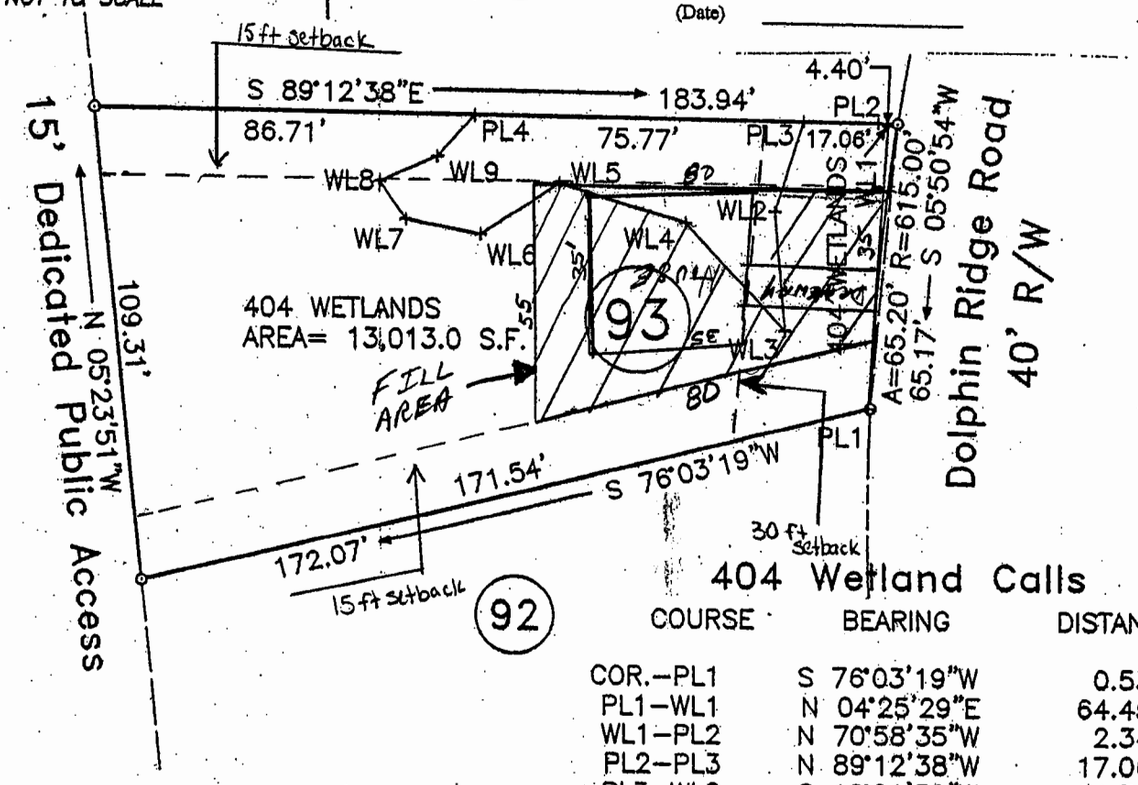
(Title) _____

(Date) _____



404 Wetland Calls

COURSE	BEARING	DISTANCE
COR.–PL1	S 76°03'19"W	0.53'
PL1–WL1	N 04°25'29"E	64.45'
WL1–PL2	N 70°58'35"W	2.34'
PL2–PL3	N 89°12'38"W	17.06'
PL3–WL2	S 18°01'50"W	21.38'
WL2–WL3	S 04°27'20"E	27.31'
WL3–WL4	N 42°44'29"W	33.20'
WL4–WL5	N 73°03'24"W	30.46'
WL5–WL6	S 57°02'42"W	21.82'
WL6–WL7	N 79°20'39"W	17.40'
WL7–WL8	N 34°18'44"W	10.60'
WL8–WL9	N 66°30'09"E	14.40'
WL9–PL4	N 42°06'54"E	12.81'

LEGEND

E.I.P. EXISTING IRON PIPE
S.I.S. SET IRON STAKE
R/W RIGHT OF WAY
M.B.S.L. MINIMUM BUILDING SETBACK LINE
M.B. MAP BOOK
PG. PAGE
S.F. SQUARE FEET
℄ CENTERLINE
E.C.M. EXISTING CONCRETE MONUMENT
E.I.S. EXISTING IRON STAKE
E.M.N. EXISTING MAG NAIL
S.M.N. SET MAG NAIL

NOTES

1.) AREA = 15,232.75 S.F. (BY COORDINATE COMPUTATION)
2.) CLOSURE = 1:10,000+
3.) REFERENCE : M.B. 28 PG. 228
4.) P.I.N. 5373.16-84-8465
5.) FLOOD ZONE : ZONE AE(EL9) PER F.I.R.M. 3720537300J, DATED JULY 16, 2003
6.) FINAL MAP RECORDED : APRIL 12, 1991
7.) THIS PROPERTY IS SUBJECT TO ALL EASEMENTS, AGREEMENTS, AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAT.

I, JOHN A. ODOM hereby certify that this map is correct and prepared according to the Standards of Practice for Land Surveying in North Carolina, and that (there are no property line encroachments either way) on said survey, the property line encroachments on said survey are as shown.)

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NORTH CAROLINA L.S. 3062 JOHN A. ODOM

Registered Land Surveyor License No.

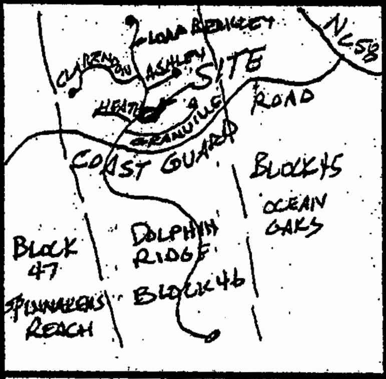
SURVEYED BY	DATE
BES	JUNE, 2004
FIELD BOOK PAGE	DRAWN BY JAO

SURVEY FOR...
NASSAU CORPORATION
P.O. BOX 29549
RALEIGH, NC 27626 252-672-5451

LOT 93, BLOCK 47 SOUTH DOLPHIN RIDGE SUBDIVISION

COUNTY	CITY	TOWNSHIP
CARTERET	EMERALD ISLE, NC	WHITE OAK
SCALE 1"=40'	DATE JUNE 4, 2004	PROJECT NO. 700(E) "LOT93.DR"

Prestige
Land Surveying, P.A.
501 W. B. McLean Blvd. – Cape Carteret
Swansboro, North Carolina 28584
252-393-2129 (Fax)252-393-3075



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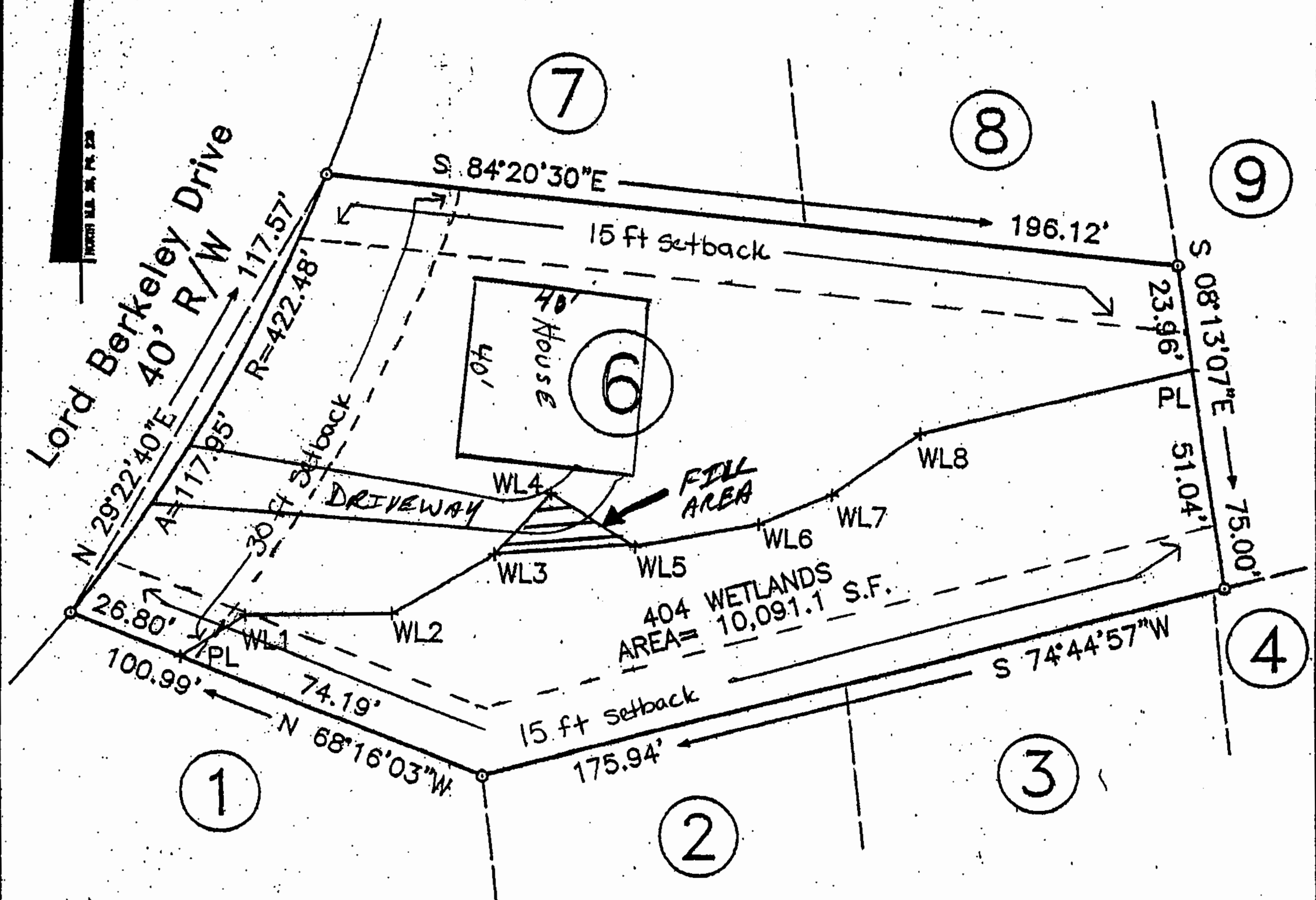
(Name) ____________________

(Title) ____________________

(Date) ____________________

404 Wetland Calls

COURSE	BEARING	DISTANCE
PL–WL1	N 56°01'51"E	17.63'
WL1–WL2	N 88°40'17"E	33.43'
WL2–WL3	N 59°15'10"E	27.44'
WL3–WL4	N 41°51'49"E	19.57'
WL4–WL5	S 57°28'14"E	23.15'
WL5–WL6	N 78°35'40"E	29.15'
WL6–WL7	N 67°03'51"E	18.39'
WL7–WL8	N 54°37'10"E	24.72'
WL8–PL	N 76°01'34"E	63.37'



LEGEND

E.I.P. EXISTING IRON PIPE
S.I.S. SET IRON STAKE
R/W RIGHT OF WAY
M.B.S.L. MINIMUM BUILDING SETBACK LINE
M.B. MAP BOOK
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E.C.M. EXISTING CONCRETE MONUMENT
E.I.S. EXISTING IRON STAKE
E.M.N. EXISTING MAG NAIL
S.M.N. SET MAG NAIL

NOTES

1.) AREA = 25,406.5 S.F. (BY COORDINATE COMPUTATION)
2.) CLOSURE = 1:10,000+
3.) REFERENCE : M.B. 28 PG. 229
4.) P.I.N. 5373.12-95-2737
5.) FLOOD ZONE : ZONE X, AE(EL9) PER F.I.R.M. 3720 5373 00J, DATED JULY 16, 2003
6.) FINAL MAP RECORDED : APRIL 12, 1991
7.) THIS PROPERTY IS SUBJECT TO ALL EASEMENTS, AGREEMENTS, AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAT.

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THIS MAP IS NOT FOR RECORDING

Professional Land Surveyor — License No.

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR L-3000 JOHN A. ODOM

SURVEYED BY	BES	DATE	MAY 2004
FIELD BOOK PAGE		DRAWN BY	JAD

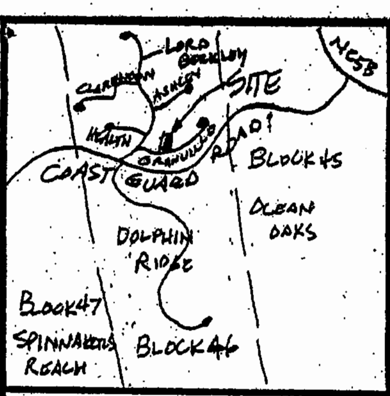
SURVEY FOR
NASSAU CORPORATION
P.O. BOX 29549
RALEIGH, NC 27626 252-672-5451

LOT 6, BLOCK 46 NORTH ROYALL OAKS SUBDIVISION

COUNTY	CITY	TOWNSHIP
CARTERET	EMERALD ISLE, NC	WHITE OAK

SCALE	DATE	PROJECT NO.
1" = 40'	JUNE 10, 2004	900161 "LOT6RD"

Prestige
Land Surveying, P.A.
501 W. B. McLean Blvd. – Cape Carteret
Swansboro, North Carolina 28584
252-393-2129 (Fax)252-393-3075



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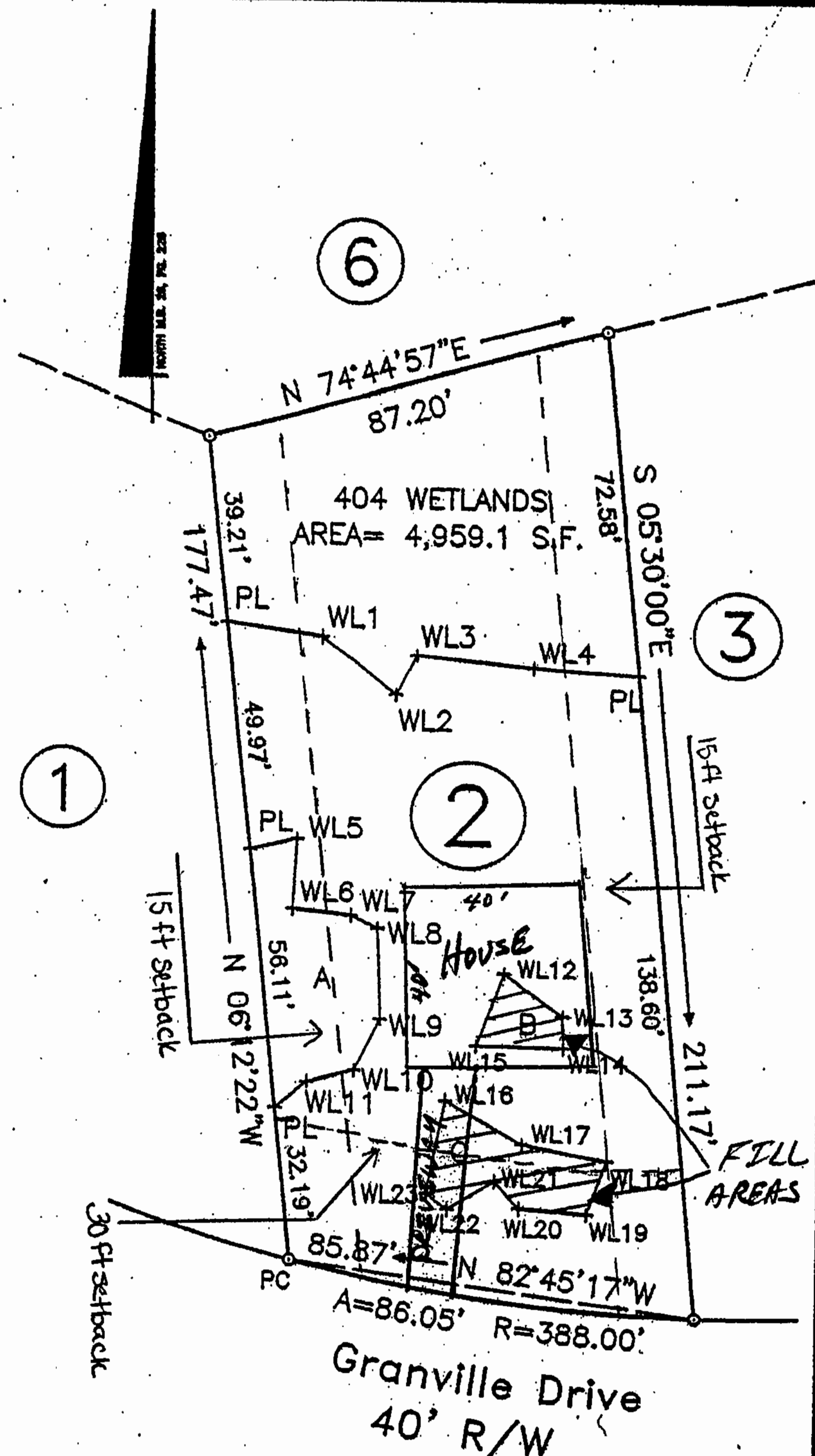
(Name) ____________________

(Title) ____________________

(Date) ____________________

404 Wetland Calls

COURSE	BEARING	DISTANCE
PL–WL1	S 82°22'00"E	20.37'
WL1–WL2	S 52°05'17"E	19.91'
WL2–WL3	N 27°20'27"E	9.43'
WL3–WL4	S 84°18'22"E	24.74'
WL4–PL	S 86°36'10"E	22.04'
PL–WL5	N 75°40'22"E	10.26'
WL5–WL6	S 02°50'28"W	15.56'
WL6–WL7	S 84°15'53"E	12.45'
WL7–WL8	S 64°20'32"E	6.30'
WL8–WL9	S 02°14'14"E	19.46'
WL9–WL10	S 25°25'16"W	12.42'
WL10–WL11	S 75°35'26"W	10.24'
WL11–PL	S 50°06'39"W	8.72'
WL12–WL13	S 54°13'57"E	15.37'
WL13–WL14	S 02°42'05"E	6.80'
WL14–WL15	N 89°24'01"W	18.38'
WL15–WL12	N 19°43'45"E	16.56'
WL16–WL17	S 60°37'08"E	18.64'
WL17–WL18	S 79°32'24"E	17.99'
WL18–WL19	S 20°37'29"W	11.63'
WL19–WL20	N 86°27'52"W	14.26'
WL20–WL21	N 42°57'47"W	7.47'
WL21–WL22	S 59°30'01"W	11.55'
WL22–WL23	N 54°46'38"W	5.44'
WL23–WL16	N 11°10'22"E	20.06'
PC–WL23	N 63°13'57"E	32.15'
WL16–WL15	N 28°05'19"E	13.32'



WETLAND A AREA= 971.7 S.F.
WETLAND B AREA= 184.7 S.F.
WETLAND C AREA= 487.9 S.F.

LEGEND

E.I.P. EXISTING IRON PIPE
S.I.S. SET IRON STAKE
R/W RIGHT OF WAY
M.B.S.L. MINIMUM BUILDING SETBACK LINE
M.B. MAP BOOK
PG. PAGE
S.F. SQUARE FEET
℄ CENTERLINE
E.C.M. EXISTING CONCRETE MONUMENT
E.I.S. EXISTING IRON STAKE
E.M.N. EXISTING MAG NAIL
S.M.N. SET MAG NAIL

NOTES

1.) AREA = 16,621.7 S.F. (BY COORDINATE COMPUTATION)
2.) CLOSURE = 1:10,000+
3.) REFERENCE : M.B. 28 PG. 229
4.) P.I.N. 5373.12 75-2767
5.) FLOOD ZONE : ZONE X, AE(EL9) PER F.I.R.M. 3720537300J, DATED JULY 16, 2003
6.) FINAL MAP RECORDED : APRIL 12, 1991
7.) THIS PROPERTY IS SUBJECT TO ALL EASEMENTS, AGREEMENTS, AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAT.

I, JOHN A. ODOM hereby certify that this map is correct and prepared according to the Standards of Practice for Land Surveying in North Carolina, and that (there are no property line encroachments either way on said survey, ~~the property line encroachments on said survey are as shown.~~)

THIS MAP IS NOT FOR RECORDING.

NORTH CAROLINA PROFESSIONAL SEAL L-3062 LAND SURVEYOR JOHN A. ODOM

Professional Land Surveyor License No.

SURVEYED BY BES	DATE MAY, 2004
FIELD BOOK PAGE	DRAWN BY

SURVEY FOR
NASSAU CORPORATION
P.O. BOX 29549
RALEIGH, NC 27626 252-672-5451
LOT 2, BLOCK 46 NORTH ROYALL OAKS SUBDIVISION

COUNTY	CITY	TOWNSHIP
CARTERET	EMERALD ISLE, NC	WHITE OAK

SCALE	DATE	PROJECT NO.
1"= 40'	JUNE 10, 2004	900 IIEI "LOT 2 RO"

Prestige
Land Surveying, P.A.
501 W. B. McLean Blvd. – Cape Carteret
Swansboro, North Carolina 28584
252-393-2129 (Fax)252-393-3075

SPANGLER
ENVIRONMENTAL, INC.

Land Planning ☐ Permitting ☐ Environmental Consulting ☐ Construction Management ☐ Expert Testimony

WETLAND MITIGATION PLAN
DOLPHIN RIDGE AND ROYALL OAKS SUBDIVISIONS
CARTERET COUNTY, NORTH CAROLINA

Prepared by:
Spangler Environmental, Inc.
224 Fayetteville Street Mall, Suite 400
Raleigh, NC 27601
-and-
3961 B Market Street
Wilmington, NC 28403

January 21, 2005

Paul Masten
Project Environmental Scientist

Conceptual Wetland Creation Plan- Dolphin Ridge and Royall Oaks Developments

Target:

Create wetland biological communities on the site as mitigation for the planned wetland impacts to occur at Lots 9, 12 and 93 of the Dolphin Ridge subdivision and Lots 2 and 6 of the Royall Oaks subdivision. This plan is intended to provide a minimum mitigation ratio of 1:1 for impacts proposed. Specific locations of mitigation are proposed to compensate for specific locations of unavoidable impacts per the following correlations:

- 764 square feet of impact at Lot 12 of Dolphin Ridge, 337 square feet of impact at Lot 9 of Dolphin Ridge, 3,107 square feet of impact at Lot 93 of Dolphin Ridge, 224 square feet of impact at Lot 6 of Royall Oaks and 673 square feet of impact at Lot 2 of Royall Oaks, a total of 5,105 square feet, will be mitigated by the creation of 1,666 square feet of wetland on Lots 11 and 12 of Dolphin Ridge, 1,443 square feet of wetland on Lot 39 of Royall Oaks and 2,160 square feet of wetland on Lot 41 of Royall Oaks a total of 5,269 square feet.

Creation Area Benchmarks:

- Establishment and maintenance of water table within 12 inches of the soil surface for at least 12.5% of the growing season, for three successive, normal rainfall years through minor excavation activities to affect hydrology on a per lot basis. Excavation activities will create three vegetation zones – a Facultative zone at an elevation one foot above the seasonal water table, a Facultative Wet zone at an elevation six inches above the seasonal water table, and an Obligate zone at the elevation of the seasonal water table.
- Natural recruitment of seed material into each zone according to the following percentages and densities:
    1. Facultative zone – 75% plant species with a wetland indicator status of Facultative or wetter and 25% having Facultative Upland or drier status to achieve a total aerial coverage of 75% after two growing seasons.
    2. Facultative Wet zone – 25% of plant species having a wetland indicator status of Obligate and 75% having Facultative or wetter status to achieve a total aerial coverage of 60%.
    3. Obligate zone – >50% of plant species having a wetland indicator status of Obligate to achieve a total aerial coverage of 40%.

A typical diagram of these zones, the anticipated vegetation types and excavation slopes is included in Appendix D.

- Supplemental planting of hydrophytic vegetation as defined as dominant (greater than 50% basal area for tree species, 50% aerial coverage for herbaceous species) of species with wetland indicator status wetter than FAC to be performed, only as needed, to achieve the wetland species indicator percentages and aerial coverages listed above.

Site Description And Creation Strategies:

Geographic Position

The Dolphin Ridge and Royall Oaks Developments are located off Coast Guard Road, on the barrier island that includes Emerald Isle, Carteret County, North Carolina. The site is located approximately 0.8 miles west of NC Hwy 58, 1.7 miles east of Bogue Inlet, and 1500 feet south of Bogue Sound. The site can be found on the Swansboro USGS 7.5 Minute Quadrangle (general site map in Figure 1) and on Carteret County Soil Survey (soil maps in Figure 2).

Coast Guard Road creates the southern boundary for Royall Oaks subdivision, and the northern boundary for Dolphin Ridge subdivision. Bogue Sound creates the northern boundary for Royall Oaks, and the dune system of the Atlantic Ocean creates the southern boundary for Dolphin Ridge. The east and west boundaries for both subdivisions are created by separate, independent developments.

Site Characteristics

Topography

The project site is situated in the area between the elevated ocean dune and low marshland adjacent to Bogue Sound. Elevated dunes are prevalent throughout both subdivisions, as are many depressional wetland areas, typical for a barrier island system. Elevations over the site range from 25 feet to 10 feet above sea level, and the dune/wetland system provides topographic variability on a per lot basis, and is consistent throughout both subdivisions.

Soils

Soils in the low-lying wetland areas have dark surficial layers, while those in the elevated dune systems have a much lighter surficial layer. Munsell color generally ranges from 2.5 Y 2.5/1 to 5YR 5/1, and the thickness of the surficial layer ranges from approximately 4" to 12". The layer below the surficial layer displays a more narrow range of color. These lower soil depths key out on a Munsell chart between 7.5YR 4/1 to 10YR 3/2. It is the first subsurface layer that is most useful in determining the presence or absence of hydric soils.

According to the publication, Hydric Soils of the United States, and the Carteret County Soil Survey, two recognized hydric soil series exist on this site, Duckston and Carteret. The upland soils that are present on the site include Corolla, Fripp, Beaches-Newhan Complex, and Newhan-Corolla Complex Series.

Hydric Soils information:

Carteret series – This soil is generally described as being nearly level and very poorly drained in the marshes of the Outer Banks, with moderate alkalinity, the water table being at or near the surface continuously, and it is flooded by ocean tides daily. This soil series is located in the tidal areas on the northern edge of Royall Oaks.

Duckston series – This soil is generally described as being nearly level and poorly drained on the Outer Banks in troughs between dunes and on flats between the dunes and marshes. Permeability is rapid, and is medium acid to moderately alkaline. The water table is usually one foot to two feet below land surface and fluctuates somewhat in relation to the tides.

Hydrology

The presence of wetland hydrology on this site is likely due primarily to precipitation and some subsurface flow into the depressional areas in between dunes, some of which are geographically isolated from other water bodies by these dunes.

Depressional Areas

Depressional areas located between dunes can be found throughout the subdivisions. Some of these areas do not seem to have surface hydrology throughout the year, or have very little, while others appear to be inundated throughout the year. The size of the depressional areas may vary from 30 square feet to an acre or more.

Some depressions have very little topographic change from the adjacent uplands, while others have a topographic change of 5-10 feet over a 5-foot interval. The smaller, isolated areas are most likely hydrologically fed by subsurface flow from nearby wetlands, as well as precipitation, while the larger areas are most likely hydrologically connected to Bogue Sound and fed by precipitation and subsurface flow. A steady buildup of organic matter has possibly hindered vertical and lateral drainage from these features and furthered the development of their "bathtub" shape.

Vegetation

The majority of the site has had some degree of vegetation alteration, primarily small-scale tree and underbrush removal for the purpose of developing individual lots. Additionally, as can be seen on the Carteret County Soil Survey (Figure 2), the site had not been cleared prior to the

mid-1980's. Much of the existing vegetation outside of the developed lots is the original, predevelopment growth, and provides an accurate assessment of the natural vegetation growth succession.

The elevated dunes are dominated by *Pinus taeda,* and *Quercus alba* in the canopy, and stunted *Quercus virginiana* in the understory. In the wetland areas, the central, wettest areas are dominated by aquatic species *Lemna minor,* and *Eichhornia crassipes.* The edges and shallower areas of the wetlands are dominated by herbaceous species *Osmunda cinnamomea, Solidago sempervirens, Peltrandra virginica, Saururus cernnus, Cornus foemina, Ammania latifolia, Ludwigia palustris, and Polygonum punctatum.* The understory along the edges is dominated by *Myrica cerifera, Persea borbonia, Magnolia virginiana,* and *Salix nigra,* and in the canopy by *Acer rubrum,* and *Pinus taeda.*

The barrier island system observed on the project site is a varying combination of communities, the Maritime Evergreen Forest, which represents the elevated areas and grades down into either an Interdune Pond, Maritime Swamp Forest, or Maritime Shrub Swamp as described in the Classification of Natural Communities of North Carolina, (Shafale and Weakley, 1990) Third Approximation. Such classification will be used throughout this wetland creation plan for the purpose of clarity and reference.

The Maritime Evergreen Forest community is described as old stabilized sand dunes and flats protected from salt water flooding and most extreme salt spray being well drained to excessively drained, and subject to moderate to light salt spray. The vegetation is typically characterized by a low to moderately high canopy (open or closed) of *Pinus taeda* and stunted *Quercus virginiana,* with an understory dominated *Persea borbonia, Juniperus virginiana, Cornus florida,* and others. A shrub layer is usually present, and includes *Ilex vomitoria*, *Myrica cerifera*, *Sabal minor,* and *Calicarpa americana.* The herb layer is described as being sparse and low in diversity. Some of these species have all been identified on the site, but species identification focused on the wetland areas, i.e. within the Interdune Pond community. This type of community is found on the upland areas of most lots within the two subdivisions.

The Interdune Pond community is described as being depressions in active or relict dune areas on barrier islands, where the soils are not generally mapped and the surrounding and underlying substrate is sand or muck. These areas are permanently flooded to intermittently exposed. Vegetation in these communities are often floating or submerged aquatic plants, depending upon depth of water, but can include *Azolla caroliniana, Ceratophylum muricatum, Limnobium*

spongia, Riccia fluitans, Ricciocarpus natans, Spirodella polyrhiza, Lemna gibba and others in deeper waters, and shallow waters and intermittently exposed area have various freshwater marsh species, such as *Thelypteris palustris, Leersia oryzoides, Eleocharis baldwinii, Typha angustifolia, Setaria magna,* and others. Pond margins often have borders of *Salix nigra, Acer rubrum, Cephalanthus occidentalis, Nyssa biflora, Rosa palustris, and Decodon verticillatus.* The hydric soils of these communities are often overlooked during mapping, and is most likely the cause of the project site not having any hydric soils mapped. This type of community was observed on Lot 93 of Dolphin Ridge.

The Maritime Swamp Forest community is described as being wet areas in well-protected swales, edges of relict dunes, and edges of freshwater sounds. The soils are wet mucky or sandy, and the areas are palustrine, seasonally or intermittently flooded or saturated, to intermittently exposed. The forest canopy is dominated by such species as *Nyssa biflora, Acer rubrum, Liquidambar styraciflua, Fraxinus Americana, Taxodium distichum, Pinus taeda, Quercus nigra,* or *Quercus michauxii.* The understory trees and shrubs may include *Carpinus caroliniana, Persea borbonia, Myrica cerifera, Conrus stricta,* and *Magnolia virginiana.* Common vines include *Berchemia scandens, Toxicodendron radicans,* and *Vitis rotundiflora.* The usually sparse herb layer may include *Woodwardia virginica, Woodwardia areolata, Osmunda cinnamomea, Osmunda regalis, Saururus cernnus, Boehmeria cylindrical, Mitchellarepens,* and *Carex.* This type of community was observed on Lot 12 of Dolphin Ridge and Lot 6 of Royall Oaks.

The Maritime Shrub Swamp community is described as being wet dune swales and depressions on barrier islands, with wet mucky soils, which are palustrine, seasonally flooded or saturated to intermittently exposed. The vegetation of these communities typically has an open to dense canopy of shrubs to small trees composed of *Persea borbonia, Pinus taeda,* and *Acer rubrum,* and a sparse herb layer containing *Osmunda cinnamomea, Osmunda regalis, Woodwardia virginica, Onoclea sensibilis, or Thelypteris palustris.* This type of community was observed on Lot 9 of Dolphin Ridge and Lot 2 of Royall Oaks.

Proposed Creation Strategy

All wetland creation areas are proposed to be extensions of existing wetland communities, so the excavation, grading, and plant choices for the creation areas will be done so as to reflect the hydrological and vegetative conditions of the adjacent existing wetlands. The following table equates the target Community Type as indicated by the characteristics of the adjacent wetland with the proposed mitigation location:

Lots 11/12 Dolphin Ridge: Maritime Swamp Forest

Lot 39 Royall Oaks: Interdune Pond
Lot 41 Royall Oaks: Interdune Pond

All on-site work will occur under the direct supervision of the wetland scientists, soil scientists, and engineers that have been responsible for the Restoration Plan and Wetland Delineation.

Topographic Modification

The topographic adjustment to the upland area adjacent to the existing wetlands is the first step in the creation of these mitigation areas. Exhibits showing the pre- and post-construction contours of the proposed mitigation locations are included in Appendix B. Reference monitoring wells have been installed in uplands near the existing adjacent wetlands to provide the water table depth to guide the needed depth of excavation. The transitional topography of the upland/wetland boundary of the existing wetlands will be mimicked in the excavation of the creation areas (i.e. 3:1 slope down to existing wetland boundary will correlate into 3:1 slope down to creation area boundary). The existing, adjacent depression areas will form the model for the down slope topography. In this manner, a natural topography will be created, which in turn will encourage natural wetland conditions.

Lowering the elevation of the planned creation areas will result in surface and subsurface soils being exposed to the water table and reducing conditions that will, over time, result in hydric soil conditions comparable to the existing adjacent wetlands.

Natural Recruitment of Seed Material

Because healthy, diverse vegetation communities are present in the existing wetlands adjacent to the creation areas, natural recruitment of the native seed material will be used initially. This will be done by simply allowing the existing plant species to migrate into the creation areas through natural means of germination and root stabilization.

Hand Planting of Native Species

If natural recruitment does not meet the success criteria stated in the goals of the Vegetation Monitoring within three years of the completion of the creation areas, a cover crop of low-growing herbaceous and woody wetland species will be planted by the end of the third growing season in order to attain the vegetation success criteria. Planting of bare-root seedlings of species, identified in Appendix A, within the creation areas should commence in March of the growing season following the second year of monitoring to allow maximum time for establishment during the first year's growth. Planting locations for each creation area are specified in Appendix C. Such supplemental planting shall be performed to achieve the wetland indicator status percentages and aerial coverages listed in the Creation Area Benchmarks. The

planting lists for each specific creation area were based upon the species identified in the existing wetland areas adjacent to the creation areas.

Creation Area Monitoring

Hydrology

Goal: Reestablish and maintain wetland hydrology, as defined as a water table at or above 12 inches in soil profile depth for at least 12.5% of the growing season for three successive, normal rainfall years.

Shallow water table monitoring wells have been placed in upland areas adjacent to where creation will be performed and will be examined at three times during the growing season and one time outside the growing season. Monitoring will commence at the beginning of the growing season that follows the completion of the topographic modifications. Data obtained from the United States Geological Survey (USGS) and/or National Weather Service will be used as reference for calibrating rainfall to water table depths for normal year.

Vegetation Monitoring

Goal: Create vegetation densities similar to those of the existing, adjacent wetland areas used as reference for wetland creation areas. For the Facultative zone, an average stem count of 60-70 woody stems/acre and an aerial coverage of 15% of herbaceous species. The percentages of wetland indicator status of species within this zone will be 75% Facultative or wetter and 25% Facultative Upland or drier. For the Facultative Wet zone, an average stem count of 30-40 woody stems/acre and an aerial coverage of 40% of herbaceous species. The percentages of wetland indicator status of species within this zone will be 25% Obligate and 75% Facultative or wetter. For the Obligate zone, an average stem count of 10-20 woody stems/acre and an aerial coverage of 35% of herbaceous species. The percentages of wetland indicator status of species within this zone will be 50% Obligate.

The vegetation in each zone of the creation areas will be monitored on a quarterly basis over randomly chosen sample locations (utilizing a random numbers table and grid system over the restoration areas) that cover at least 10% of each individual creation site. The aerial cover and/or stem count will be quantified as well as the wetland indicator status of the species within the sampling location. Additional notes will be made on the general health of the vegetation and the extent to which the sampled location is representative of the creation area in general.

Monitoring will be performed until the success criteria goals mentioned above are achieved and maintained for three successive growing seasons.

Appendix A – Planting List

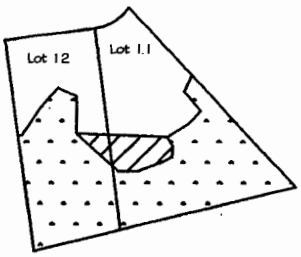
All plant species are bare-root seedlings unless otherwise specified

Dolphin Ridge Lot 11/12 creation area – Maritime Swamp Forest
Salix nigra - 4
Myrica cerifera - 3
Persea borbonia - 2
Acer rubrum - 2
Osmunda cinnamomea – 20 (1 / 6 sq ft)
Solidago sempervirens – 40 (1 / 6 sq ft)
Mikania scandens –30 (1 / 6 sq ft)

Royall Oaks Lot 39 creation area – Interdune Pond
Persea borbonia – 2
Myrica cerifera – 3
Acer rubrum – 3
Magnolia virginiana – 4
Osmunda cinnamomea – 37 (1 / 10 sq ft)
Polygonum punctatum – 45 (1 / 20 sq ft)
Saururus cernnus – 10 (1 / 20 sq ft)
Ammania latifolia – 10 (1 / 2 sq ft)

Royall Oaks Lot 41 creation area – Interdune Pond
Persea borbonia – 3
Magnolia virginiana – 4
Acer rubrum – 3
Myrica cerifera – 3
Ammania latifolia – 20 (1 / 10 sq ft)
Ludwigia palustris – 20 (1/ 10 sq ft)
Leucothoe racemosa – 25 (1 / 20 sq ft)

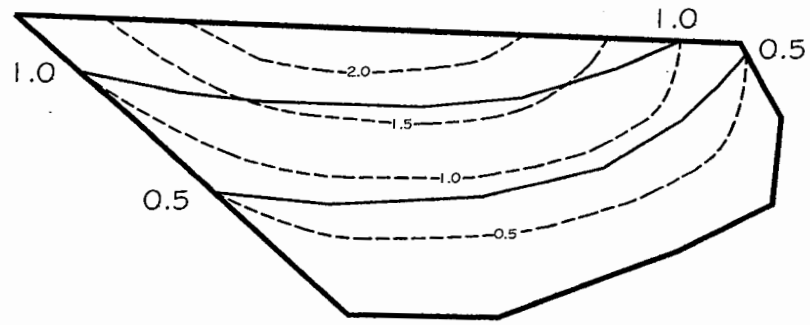
Appendix B – Pre- and Post-construction Topographic Contours



Dolphin Ridge Lot 11 and 12 Mitigation Area

Existing Wetland

Creation Area



Preconstruction Contours

Postconstruction Contours

0 20 40 80

Dolphin Ridge/Royall Oak Mitigation Plan
Lots 11 and 12 Dolphin Ridge Topography
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

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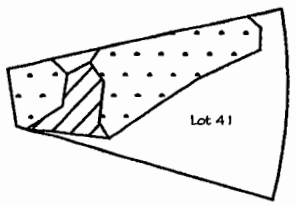
DATE: 1-18-05
DRAWN: T. ROUSE
FIGURE NO.: B-1

SPANGLER ENVIRONMENTAL, INC.
224 Fayetteville St. Mall
Suite #400
Post Office Box 387
Raleigh, NC 27602-0387
(919) 546-0754

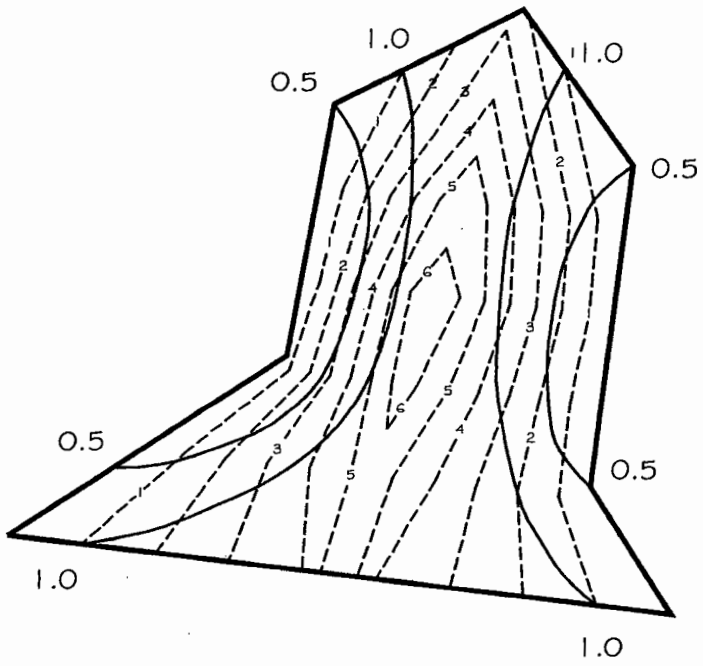
PROJECT: 2003100411
FILENAME: DolphinRoyall
SCALE: 1" = 80'
DATE: 1-18-2005
Spangler



Royall Oak Lot 41 Mitigation Area

Existing Wetland

Creation Area



Preconstruction Contours

Postconstruction Contours

0 5 10 20

Dolphin Ridge/Royall Oak Mitigation Plan
Lot 41 Royall Oak Topography
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

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DATE: 1-18-05
DRAWN: T. ROUSE
FIGURE NO. B-2

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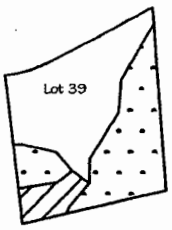
224 Fayetteville St. Mall
Suite #400
Post Office Box 387
Raleigh, NC 27602-0387
(919) 546-0754

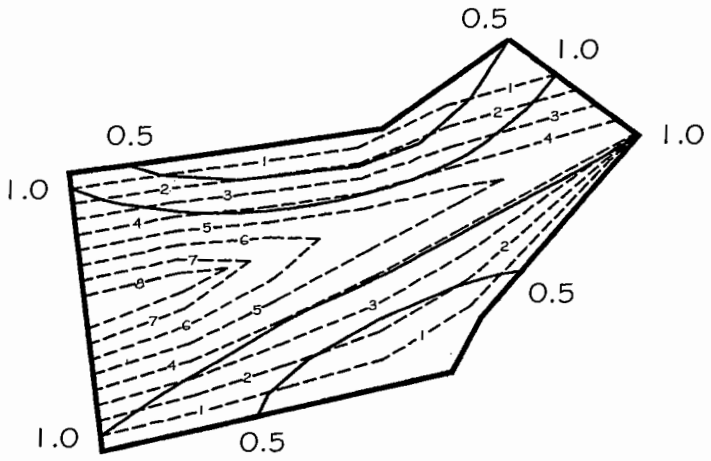
Spangler
DATE: 1-18-2005
SCALE: 1" = 20'
DRAWN BY: T. ROUSE
FILE NAME: DolphinRoyall
PROJECT NO. 2003.10041



Royall Oak Lot 39 Mitigation Area

Existing Wetland

Creation Area



Preconstruction Contours

Postconstruction Contours

0 5 10 20

Dolphin Ridge/Royall Oak Mitigation Plan
Lot 39 Royall Oak Topography
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

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DATE: 1-18-05
DRAWN: T. ROUSE
FIGURE NO.: B-3

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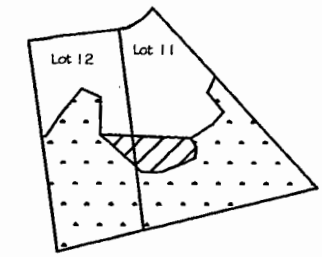
224 Fayetteville St. Mall
Suite #400
Post Office Box 387
Raleigh, NC 27602-0387
(919) 546-0754

Spangler
1-18-2005
1" = 20'
T. Rouse
DolphinRoyall
2003L0004.1

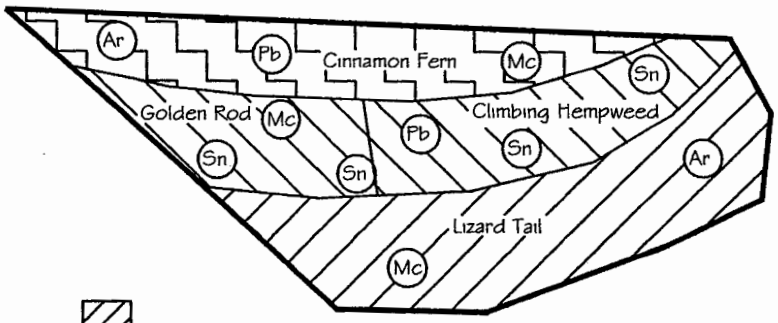
Appendix C – Supplemental Planting Plan



Dolphin Ridge Lot 11 and 12 Mitigation Area

Existing Wetland

Creation Area



Obligate

Facultative Wet

Facultative

PLANTS

Lizard Tail

Golden Rod

Cinnamon Fern

Ar - Acer rubrum

Mc - Myrica cerifera

Pb - Persea borbonia

Sn - Silax nigera

0 20 40 80

Dolphin Ridge/Royall Oak Mitigation Plan
Lots 11 and 12 Dolphin Ridge Planting Plan
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

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DATE: 1-18-05
DRAWN: T. ROUSE
FIGURE NO. C-1

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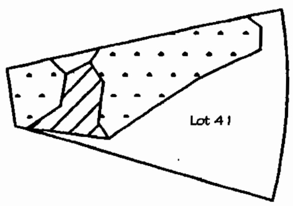
224 Fayetteville St. Mall
Suite #400
Post Office Box 387
Raleigh, NC 27602-0387
(919) 546-0754

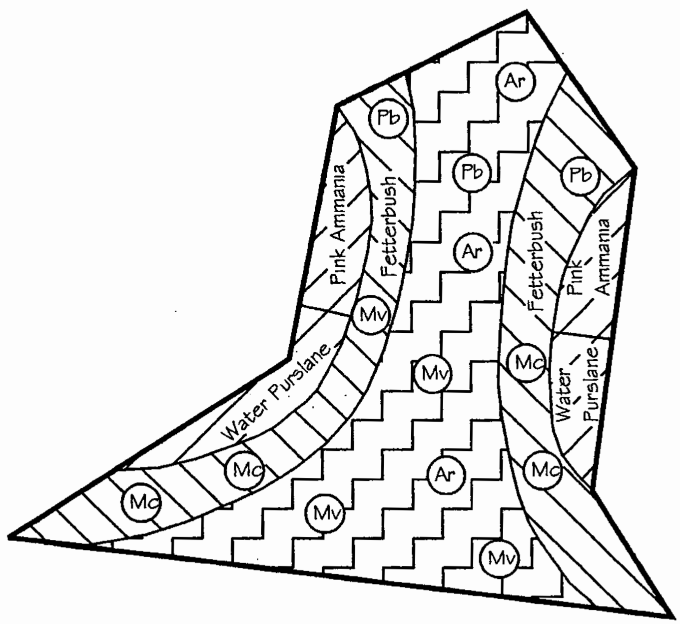
PROJECT NO. 2003.L0041
FILE NAME: Dolphin Royall
DRAWN BY: T. Rouse
SCALE: 1" = 80'
DATE: 1-18-2005
Spangler



Royall Oak Lot 41 Mitigation Area

Existing Wetland

Creation Area



Obligate

Facultative Wet

Facultative

PLANTS

Fetterbush
Pink Ammania
Water Purslane
Ar - Acer rubrum
Mc - Myrica cerifera
Mv - Magnolia virginiana
Pb - Persea borbonia

0 5 10 20

Dolphin Ridge/Royall Oak Mitigation Plan Lot 41 Royall Oak Planting Plan Emerald Isle, North Carolina	Prepared For: Ward & Smith, P.A.	DATE: 1-18-05 DRAWN: T. Rouse FIGURE NO. C-2

PROJECT NO. 2003L0041
FILE NAME: DolphinRoyall
DRAWN BY: T. Rouse
SCALE: 1" = 20'
DATE: 1-18-2005
Spangler

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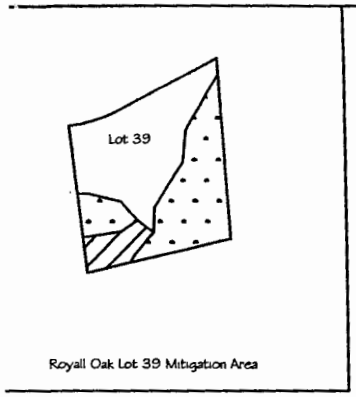
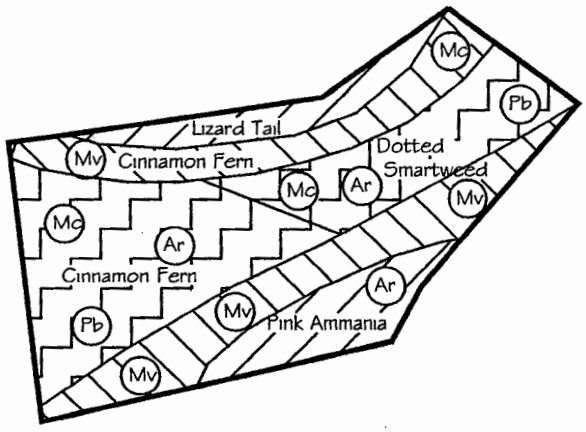


Royall Oak Lot 39 Mitigation Area

Existing Wetland

Creation Area



Obligate

Facultative Wet

Facultative

0 5 10 20

PLANTS

Cino Fern

Dotted Smartweed

Lizard Tail

Pink Ammania

Ar - Acer rubrum

Mc - Mynca cerifera

Mv - Magnolia virginiana

Pb - Persea borbonia

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1-18-2005

1" = 20'

T. Rouse

Royall

2003.0041

Dolphin Ridge/Royall Oak Mitigation Plan
Lot 39 Royall Oak Planting Plan
Emerald Isle, North Carolina

Ward & Smith, P.A.

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DRAWN: T. ROUSE

FIGURE NO. C-3

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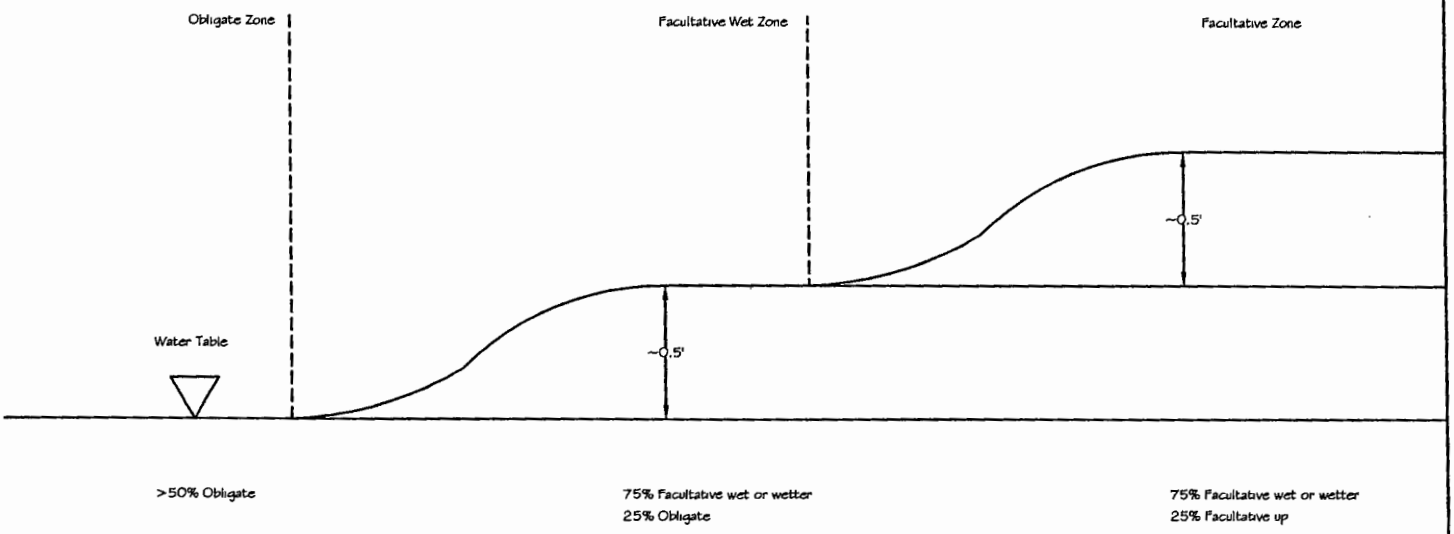
Appendix D – Typical Creation Area Cross Section



Dolphin Ridge/Royall Oak Mitigation Plan
Typical Profile
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

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DATE: 1-18-05
DRAWN: T. ROUSE
FIGURE NO.: D-1

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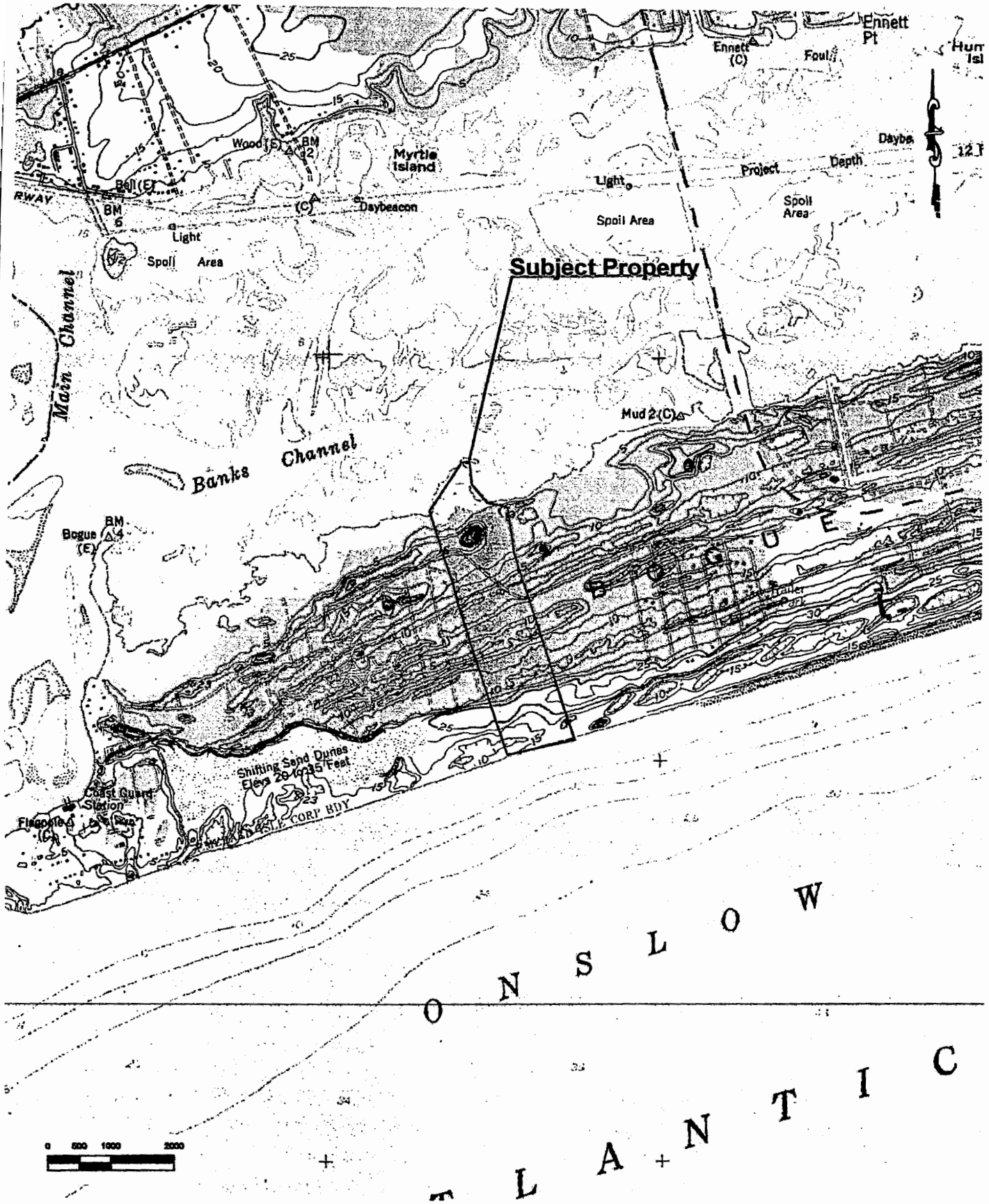
Spangler
DATE: 1-18-2005
SCALE: Not to Scale
DRAWN BY: T. Rouse
CHECKED BY: Dolphin/Royall
PROJECT NO.: 2003.10041
FILE NAME: Dolphin/Royall



7.5 Minute USGS Topographic Location Map
Dolphin Ridge/Royall Oak Mitigation Plan
Emerald Isle, North Carolina

Prepared for: Ward & Smith, P.A.

DATE: 1-18-05
DRAWN: T. Rouse
FIGURE NO. 1

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Spangler | 1-18-05 | 1" = 2000 | T. Rouse | DolphinRoyall | 2003.0041

Carteret County Soil Survey
Dolphin Ridge/Royall Oak Mitigation Plan
Emerald Isle, North Carolina

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DATE: 1-18-05
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FIGURE NO. 2

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Spangler | 1-18-05 | SCALE: 1" = 2000' | DRAWN: T. Rouse | DolphinRoyall | PROJECT: 2003.10041